

WHAT IS CLAIMED IS:

1           1.       A method for providing a redundant Fibre Channel path, comprising:  
2           detecting a connection change in a Fibre Channel network; and  
3           verifying a backup device has a path to a connection associated with the  
4           connection change.

1           2.       The method of claim 1, wherein the detecting a connection change further  
2           comprises issuing a state change notification indicating a device has been added to the  
3           Fibre Channel network.

1           3.       The method of claim 1, wherein the detecting a connection change further  
2           comprises issuing a state change notification indicating a device has been removed from  
3           the Fibre Channel network.

1           4.       The method of claim 1, wherein the detecting a connection change further  
2           comprises issuing a state change notification indicating a device has failed and severed a  
3           connection to the Fibre Channel network.

1           5.       The method of claim 1, wherein the verifying further comprises querying a  
2           name table by the backup device to determine whether the backup device has a redundant  
3           path to the connection associated with the connection change.

1           6.       The method of claim 1 further comprising moving a World Wide Name  
2   and World Wide Port Name associated with the connection change to the backup device  
3   to provide a redundant path to the connection associated with the connection change.

1           7.       The method of claim 1, wherein the detecting a connection change further  
2   comprises receiving an indication from a Loop Initialization Primitive indicating a device  
3   has been added to the Arbitrated Loop.

1           8.       The method of claim 1, wherein the detecting a connection change further  
2   comprises receiving an indication from a Loop Initialization Primitive indicating a device  
3   has been removed from the Arbitrated Loop.

1           9.       The method of claim 1, wherein the detecting a connection change further  
2   comprises receiving an indication from a Loop Initialization Primitive indicating a device  
3   has failed and severed a connection to the Arbitrated Loop.

1           10.      The method of claim 1, wherein the verifying further comprises querying a  
2   Topology Database to determine whether a backup device has a redundant path to the  
3   connection associated with the connection change.

1           11.      The method of claim 1 further comprising moving an Arbitrated Loop  
2   Physical Address associated with the connection change to a backup device to provide a  
3   redundant path to a connection associated with the connection change.

1           12.     The method of claim 1, wherein the verifying further comprises  
2     periodically verifying the backup device has a path to a connection associated with the  
3     connection change.

1           13.     The method of claim 1, wherein the verifying further comprises providing  
2     a warning of lack of redundancy when the backup device does not have a path to a  
3     connection associated with the connection change.

1           14.     The method of claim 13, wherein the verifying further comprises taking  
2     corrective action in response the warning of lack of redundancy.

1           15.     A device for providing a redundant Fibre Channel path, comprising:  
2             a port coupled to a Fibre Channel network, and  
3             a processor, coupled to the port, the processor configured for detecting a  
4     connection change in a Fibre Channel network and verifying the port has a path to a  
5     connection associated with the connection change.

1           16.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a state change notification indicating a device has been added to the Fibre  
3     Channel network.

1           17.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a state change notification indicating a device has been removed from the  
3     Fibre Channel network.

1           18.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a state change notification indicating a device has failed and severed a  
3     connection to the Fibre Channel network.

1           19.     The device of claim 15, wherein the processor verifies the port has a path  
2     to a connection associated with the connection change by querying a name table to  
3     determine whether the port is coupled via a redundant path to the connection associated  
4     with the connection change.

1           20.     The device of claim 15, wherein a World Wide Name and World Wide  
2     Port Name associated with the connection change is changed to be associated with the  
3     port to provide a redundant path to the connection associated with the connection change.

1           21.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a Loop Initialization Primitive indicating a device has been added to the  
3     Arbitrated Loop.

1           22.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a Loop Initialization Primitive indicating a device has been removed from  
3     the Arbitrated Loop.

1           23.     The device of claim 15, wherein the processor detects a connection change  
2     in response to a Loop Initialization Primitive indicating a device has failed and severed a  
3     connection to the Arbitrated Loop.

1           24.     The device of claim 15, wherein the processor verifies the port has a path  
2     to a connection associated with the connection change by querying a Topology Database  
3     to determine whether the port is coupled via a redundant path to the connection  
4     associated with the connection change.

1           25.     The device of claim 15 further comprising an Arbitrated Loop Physical  
2     Address associated with the connection change, wherein the Arbitrated Loop Physical  
3     Address associated with the connection change is changed to be associated with the port  
4     to provide a redundant path to the connection associated with the connection change.

1           26.     The device of claim 15, wherein the processor verifies the port has a path  
2     to a connection associated with the connection change by periodically verifying the port  
3     has a path to a connection associated with the connection change.

1           27.     The device of claim 15, wherein the processor provides a warning of lack  
2     of redundancy when the port does not have a path to a connection associated with the  
3     connection change.

1           28.     The device of claim 27, wherein the processor takes corrective action in  
2     response the warning of lack of redundancy.

1           29.     A network providing a redundant Fibre Channel path, comprising:  
2             a local node;  
3             a remote node; and  
4             a Fibre Channel network coupling the local node and the remote node,  
5             wherein at least one of the local node, remote node and Fibre Channel network  
6     includes a first physical interface and a backup physical interface, wherein the backup  
7     physical interface further comprises:  
8                 a port coupled to a Fibre Channel network, and  
9                 a processor, coupled to the port, the processor configured for detecting a  
10    connection change in a Fibre Channel network and verifying the backup physical  
11    interface has a path to a connection associated with the connection change.

1           30.     The network of claim 29, wherein the processor detects a connection  
2     change in response to a state change notification indicating a device has been added to  
3     the Fibre Channel network.

1           31.     The network of claim 29, wherein the processor detects a connection  
2     change in response to a state change notification indicating the first physical interface has  
3     been removed from the Fibre Channel network.

1           32.     The network of claim 29, wherein the processor detects a connection  
2     change in response to a state change notification indicating the first physical interface has  
3     failed and severed a connection to the Fibre Channel network.

1           33.     The network of claim 29, wherein the processor verifies the backup  
2     physical interface has a path to a connection associated with the connection change by  
3     querying a name table to determine whether the backup physical interface is coupled via  
4     a redundant path to the connection associated with the connection change.

1           34.     The network of claim 29, wherein a World Wide Name and World Wide  
2     Port Name associated with the connection change is changed to be associated with the  
3     backup physical interface to provide a redundant path to the connection associated with  
4     the connection change.

1           35.     The network of claim 29, wherein the processor verifies the backup  
2     physical interface has a path to a connection associated with the connection change by  
3     periodically verifying the backup physical interface has a path to a connection associated  
4     with the connection change.

1           36.     The network of claim 29, wherein the processor detects a connection  
2 change in response to a Loop Initialization Primitive indicating a device has been added  
3 to the Arbitrated Loop.

1           37.     The network of claim 29, wherein the processor detects a connection  
2 change in response to a Loop Initialization Primitive indicating a device has been  
3 removed from the Arbitrated Loop.

1           38.     The network of claim 29, wherein the processor detects a connection  
2 change in response to a Loop Initialization Primitive indicating a device has failed and  
3 severed a connection to the Arbitrated Loop.

1           39.     The network of claim 29, wherein the processor verifies the port has a path  
2 to a connection associated with the connection change by querying a Topology Database  
3 to determine whether the port is coupled via a redundant path to the connection  
4 associated with the connection change.

1           40.     The network of claim 29 further comprising an Arbitrated Loop Physical  
2 Address associated with the connection change, wherein the Arbitrated Loop Physical  
3 Address associated with the connection change is changed to be associated with the port  
4 to provide a redundant path to the connection associated with the connection change.



1           41.     The network of claim 29, wherein the processor provides a warning of  
2     lack of redundancy when the backup physical interface does not have a path to a  
3     connection associated with the connection change.

1           42.     The network of claim 41, wherein the processor takes corrective action in  
2     response to the warning of lack of redundancy.

1           43.     A program storage device readable by a computer, the program storage  
2     device tangibly embodying one or more programs of instructions executable by the  
3     computer to perform a method for providing a redundant Fibre Channel path, the method  
4     comprising:

5                 detecting a connection change in a Fibre Channel network; and  
6                 verifying a backup device has a path to a connection associated with the  
7     connection change.

1           44.     The program storage device of claim 43, wherein the verifying further  
2     comprises querying a name table by the backup device to determine whether the backup  
3     device has a redundant path to the connection associated with the connection change.

1           45.     The program storage device of claim 43 further comprising moving a  
2     World Wide Name and World Wide Port Name associated with the connection change to  
3     the backup device to provide a redundant path to the connection associated with the  
4     connection change.

1           46.     A device for providing a redundant Fibre Channel path, comprising:  
2           means for providing a port to a Fibre Channel network, and  
3           means for processing coupled to the means for providing a port, the means for  
4     processing detecting a connection change in a Fibre Channel network and verifying the  
5     means for providing a port has a path to a connection associated with the connection  
6     change.

1        47.    A network providing a redundant Fibre Channel path, comprising:  
2        a local node;  
3        a remote node; and  
4        a Fibre Channel network coupling the local node and the remote node,  
5        wherein at least one of the local node, remote node and Fibre Channel network  
6        includes a first means for providing a physical interface and a second means for  
7        providing a backup physical interface, wherein the second means further comprises:  
8                means for providing a port to a Fibre Channel network, and  
9                means for processing coupled to the means for providing a port, the means  
10        for processing detecting a connection change in a Fibre Channel network and verifying  
11        the backup physical interface has a path to a connection associated with the connection  
12        change.